

## Manure Mechanical DEFOMER™

*A Fast-acting  
Mechanical  
Defoamer  
to Control  
Manure Foam  
at Pump-out*

~All Natural  
Plant-based  
Oils~

Manure Defoamer is an extremely effective and fast-acting liquid manure mechanical defoamer during pump-out. Apply **Manure Defoamer** at pump-out to knock down mechanical foam. By using **Manure Defoamer**, full pump-out or manure tanker capacity can be achieved.

For more information,  
call  
**1-888-875-2425**  
or visit  
**manuremaster.com**



**"The Manure Treatment Experts"**

## Manure Master FoamAway™

### PRODUCT DESCRIPTION:

Manure Master FoamAway is a concentrated dry blend designed to knock down microbial foam in swine storage facilities.



Foaming manure pit

Same manure pit two days after using  
Manure Master FoamAway

### Benefits of Manure Master FoamAway:

- Can eliminate foaming in manure pits within a week.
- Residual abatement of pit foam for two months or longer.
- Dry formulation and easy to apply.
- Reduces the hazard potential with foaming manure pits.

**"The Manure Treatment Experts"**



**Manure Master**  
Innovative Manure Management  
**manuremaster.com**

## Crop Management News

by Dr. Jim Ladlie, ProfitProAG President

### SOIL HEALTH is the Driver for Producing Nutrient-dense, High Energy and Value-added Food/Feed

To improve and maintain optimum soil health, soils must maintain optimum levels of biodiversity, mineral nutrition and soil bioactive carbon. Healthy and nutrient-rich manure/litter will support, obtain and maintain a healthy soil. This system takes a non-GMO and reduced chemical approach to production. It provides a path to participation in the value-added crop market opportunities as well as provides superior quality feed to the livestock/poultry value-added enterprises.

### Immune System Health is Key

- The health of the immune system determines the health of a living entity – soil; plant; animal; human
- The driver of a healthy plant, animal and human immune system is... the health of the soil's immune system



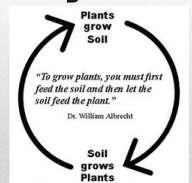
ProfitProAG

© 2017 ProfitPro, LLC. All rights reserved. CBE-9, Producing Nutrition-dense, Nov 28-30, 2017 7

Eubio

### Soil Health is Key to Value-added and Profitability

- The soil and plant should be considered as one interconnected and interdependent living system.
- The better the soil, the better the plant.
- Improvement in soil health, plant health, quality and yield should cascade from year to year.



ProfitProAG

© 2017 ProfitPro, LLC. All rights reserved. CBE-9, Producing Nutrition-dense, Nov 28-30, 2017 8

Eubio

The health status of soil determines the health status of the food chain from the soil up. Soil health is the foundation to resiliency, regenerative agriculture, value-added production and profitability. Healthy soil is active, alive and continuously regenerating.

### Building Healthy Producing Soil

- The following are the steps and sequence necessary to improve soil health, year to year consistency, water quality and profitability:



1. Build and maintain soil bioactive carbon (humus)
2. Remineralize soil
3. Build and maintain biodiversity
4. Reduce toxicity in the system

*"Doing these steps will result in nutrient retention, cycling, balance and plant availability."*

ProfitProAG

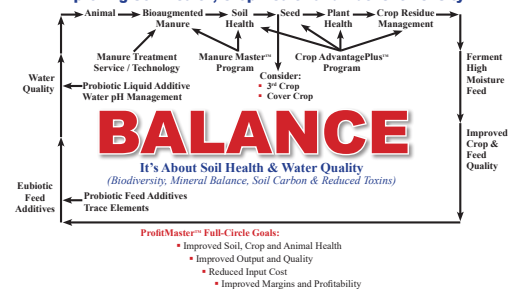
© 2017 ProfitPro, LLC. All rights reserved. CBE-9, Producing Nutrition-dense, Nov 28-30, 2017 12

Eubio

### FULL-CIRCLE ANIMAL, MANURE AND SOIL-PLANT SYSTEM™

More From Every Acre...More From Every Animal

#### "Improving Soil Health, Crop Health and Nutrient Density"



### Follow Four Basic Soil Health Principles to Improve Soil Health and Sustainability:

- Use plant diversity to increase soil organic matter and biodiversity in the soil.
- Manage soils by disturbing them less.
- Keep plants growing as much as possible throughout the year to feed the soil.
- Keep the soil covered as much as possible.





More from Every Acre...  
More From Every Animal

**FREE**  
**Teleconference Calls**

**Agronomic/Livestock**

3<sup>rd</sup> Thursday of the Month  
November 15, 2018

**Call #**

1-855-212-0212

**Meeting ID #**

769-100-082#

**Time**

8 to 9 pm Central Time

**For More Information**  
**or to find a Consultant**  
**in Your Area**

Call 1-888-875-2425

Ask about the **ProfitMaster™**  
**Full-Circle System** and the  
**Manure Master™ Program**  
[www.profitproag.com](http://www.profitproag.com)

**Now**  
**Hiring**

Work at our  
Albert Lea, MN office

**Manure Master Program**  
**Sales & Service**  
*for North Iowa &  
Southern Minnesota*

For details call John at  
**507-373-2550**

**MM Manure Master**  
Innovative Manure Management

# Eubio-NBS (c10)

**Soil & Plant Natural Biological Stimulant**

## Eubio-NBS (c10) Applied on Winter Wheat Seeds



**Eubio-NBS (c10)**  
10 oz/50 lbs



**Control**

**ProfitProAG**

## 2019 Early Order Product Cash Discount Program

- All products on conventional and organic price sheets (except for products listed below).
- The Early Order Product Cash Discount Program (E.O.P.C.D.P.) is for 2019 crop year inputs.

Deadline Discount Dates	2019 Retail Early Order Product Cash Discount <sup>1,2</sup>
November 1 – 15, 2018	8%
November 16 – 30, 2018	7%
December 1 – 15, 2018	6%
December 16 – 31, 2018	5%
January 1 – 15, 2019	4%
January 16 – 31, 2019	3%
February 1 – 28, 2019	2%

Cash or check

<sup>1</sup>Products NOT included in the 2019 Early Order Product Cash Discount Program:

- Commercial fertilizers
- Manure pit treatment products
- Services
- Equipment
- Human products

**For more information or to place an order call:**

Dennis Klockenga - 320-333-1608 (cell) / [dklockenga@profitproag.com](mailto:dklockenga@profitproag.com)

Chris Chodur – 507-402-4195 (cell) / [cchodur@profitproag.com](mailto:cchodur@profitproag.com)

or call ProfitProAG at 1-888-875-2425 (toll free)



# Increasing Liquid Manure Safety, Value and Utilization through BIOLOGICAL TREATMENT

SWINE - BEEF - DAIRY

*By Dr. Jim Ladlie, ProfitProAG President*

**T**he evolution of the livestock industry has evolved in the concentration of livestock called concentrated animal feeding operations or CAFOs. The result is an accumulation of large quantities of liquid manure in pits or lagoons that has resulted in environmental, social and agronomic issues and concerns.

## **Environmental Issues:**

- Odor around CAFO facilities and during application.
- Contamination concern of surface and groundwater with nitrogen, phosphate and other manure nutrients.
- Excessive fly populations around CAFO facilities.
- Concern about food contamination grown with manure containing antibiotics or drugs.

## **Social Issues:**

- People and communities envision concentrated CAFO facilities as a detriment due to odor (air pollution), groundwater contamination and land values. This has created a negative image of the industry to the public.
- Concern for workers' health issues when exposed to short and long term manure odors.
- Concern for animal welfare and the quality of food being produced in these facilities.

## **Manure Applicator Issues:**

- Overall ease of handling and applying liquid manure.
- Cost of extracting manure from the pit or lagoon and handling solids.
- Safety issues regarding lethal gas during the pumping process.
- Odor complaints during hauling and application.
- Surface and groundwater contamination liability concerns.
- Ability to achieve uniformity from start to finish when pumping a pit or lagoon.

## **Agronomic Issues:**

- Application volume, heavy application equipment and soil compaction.
- Manure is generally high in salts if not biologically digested.
- The flexibility to apply manure in the fall and spring.
- Escalating energy and commercial fertilizer expenses. Manure provides a more economical plant nutrient source.

## Undesirable Attributes of CAFOs

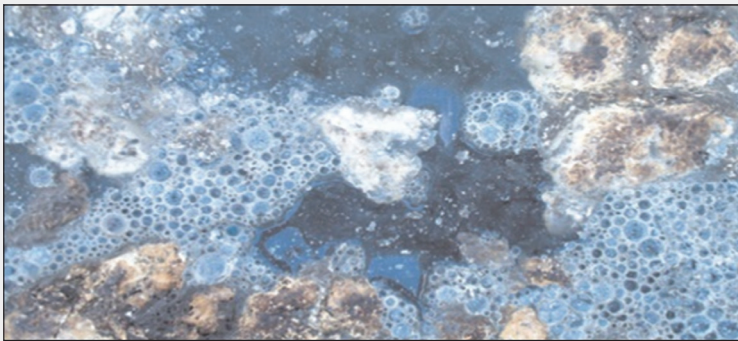
The high volume of accumulated manure and use of antibiotics, disinfectants, feed additives, DDG's and footbaths in today's CAFOs often result in high odor levels and fly populations, top crust, bottom sludge, lethal gases, loss of capacity and difficulty in agitation, pumping, hauling and with in-field application.

### Raw Manure Putrefaction Issues

Raw manure in pits and lagoons can contain many negative attributes such as: odors, lethal gases ( $H_2S$ ,  $NH_3$ , etc.), flies, foster pathogenic organisms, solids (top and bottom), nutrient inconsistency from top to bottom and often contains high levels of toxins (salts, etc.)

## Biologically Treating Liquid Manure

Often the indigenous population of microbes can't produce the necessary enzymes to rapidly digest the volume of manure and the added toxins. When manure is treated with additional natural strains, it assists the indigenous microorganisms to break down and removes a greater range of organic matter at a faster rate and is referred to as bioaugmentation of the manure. The process involves the excretion of enzymes by the microbes, which act as catalysts to speed up the biological digestion of the manure. The more diverse the microbial population and enzymes, the faster and more complete the bioaugmentation procedure. Thus, this is the way manure should be biologically treated to enhance biodiversity and enzymatic activity that results in faster and more complete diversion.



*Liquid manure showing rapid microbial digestion on the surface.*

### The Role of Beneficial Microbes in Manure Digestion

The first role of a microbial community is to remove toxins and pathogens and then create a healthy balance of the environment.

## Bioaugmentation of Liquid Manure

In an untreated manure pit or lagoon there are generally two zones. The aerobic (oxygen layer) and the anaerobic sludge zone, which is on the bottom and generates the odors and lethal gases such as hydrogen sulfide. The aerobic zone is on the top 12 inches of a pit or lagoon. As aerobic microbes multiply in the top layer, they produce oxygen, which oxidizes odorous gases and liquefies the manure.

With the addition of biological manure treatment that contains a bacteria consortium of aerobic, anaerobic and facultative (works in low to high oxygen zones), the biological digestive process kicks into high gear. These aggressive digestive microbes penetrate the anaerobic sludge zone on the bottom, create buoyancy and lift it to the top aerobic zone where it is rapidly digested and liquefied, thus, eliminating the odorous and lethal gas-generating zone. In the process, they completely agitate the content of the pit or lagoon and even reduce or completely eliminate the need for expensive agitation. This also creates consistency of the manure from top to bottom, which improves agronomic value.

### What is Bioaugmentation?

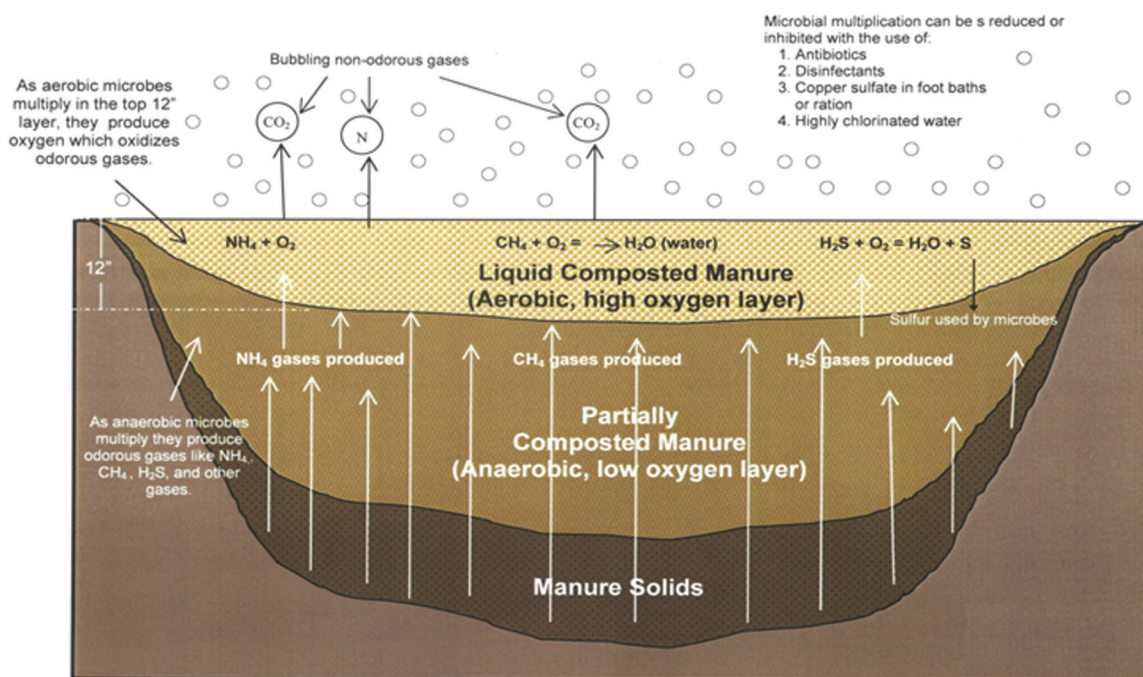
Bioaugmented manure is manure that has been processed and converted from an odorous, undigested manure into an enzyme-stimulated microbial plant food that is more liquefied and a more organic form that is biologically available for crops.

#### Changes include:

- Neutralizes odorous, noxious and flammable gases
- Solids convert to stable, liquefied solutions
- Nutrients are recycled and stabilized for increased utilization by soil biology



# Nature's Fermenting Biodigester and Odor Eliminator (Manure piles, pits and lagoons)



## Reducing Lethal Manure Pit Gases

As manure decomposes, it emits many different kinds of gases. The most harmful are hydrogen sulfide, methane, ammonia and carbon dioxide. Research shows that chronic exposure to these gases, even at low levels, can significantly reduce animal productivity and health. Furthermore, elevated concentration levels can potentially cause fatalities for both humans and animals.

In recent years there have been several cases of confinement beef losses from toxic gases, such as hydrogen sulfide. These toxic gases are mainly emitted from the anaerobic sludge at the bottom and corners of beef manure pits.

## We can Liquefy Dairy Manure

Before Treatment



After Treatment



An effective year round treatment program can help reduce the level of these toxic gases and reduce the likelihood of animal losses.

## We can Liquefy Beef Manure and Control $\text{H}_2\text{S}$ and $\text{NH}_3$



# PROFITMASTER™ Full-Circle Livestock, Manure and Soil/Plant System

Over the last 15 years, ProfitProAG has developed and perfected the “PROFITMASTER Full-Circle Livestock, Manure and Soil/Plant System.” The objective in a livestock operation is to “enhance the cycle of livestock/crop production and business performance.” The following outlines the areas of improvement and the resulting positive effect on business performance from biologically treating manure.



## Barn Environment Improvements

- Barn Environment Improvements
- Reduces odors & lethal gases ( $H_2S$ ,  $NH_3$ , etc.)
- Reduces flies
- Improves animal health
- Improves working environment
- Less corrosion of equipment & facilities
- Reduces washing & cleaning time
- Regain pit/lagoon capacity

## Manure Enhancements

- Reduces manure putrefaction
- Liquefies manure
- Less agitation required (50% or more)
- Improves consistency of manure (Top to bottom)
- Reduces pathogen load in manure
- Reduces manure toxins (salts)

## Soil Health & Crop Enhancements

- Improves root zone health & crop yields/quality
- Predigested manure “no lag phase in-field”
- Improves nutrient value & retention
- Improves soil biology & health
- Improves uniformity of in-field applications
- Improves N soil fixation
- Reduces weed & pest pressure over time
- Better in-field crop residue decomposition



*Corn roots showing enhanced root health from treated manure applied in a strip-till application. Growers can reduce plant nutrient cost, improve soil and plant health, improve crop residue decomposition, detoxify the soil (reduce salts) and improve nitrogen and other plant nutrient efficiencies by biologically treating their manure.*

**Enhances  
the Cycle of  
Livestock/Crop  
Production & Business Performance**

## Improved Feed Value & Quality

- Improves nutrient content (trace elements) and energy
- Higher crop/feed brix values
- Reduces aflatoxins & mycotoxins in feed

## Business Enhancements

- Improves overall business performance
- Reduces potential risk
- Improves livestock health and performance
- Improves employee working conditions and retention
- Normally after two to three years of applying biologically treated manure, a five to 15% yield response is achieved
- Reduces agronomic input cost
- Improves manure utilization – cover more acreage with same volume of manure
- Improves neighbor & community relations (Reduces odor during transportation & application)
- Reduces environmental impact after field application
- Improves longevity of equipment & facilities (Less corrosion & maintenance cost)
- Increases the amount of manure that can be irrigated
- Reduces the time required to complete a pump-out



## Agronomic Justification of Liquid Manure Bioaugmentation

The following crop enhancement scenario showcases the economic benefit of bioaugmented manure. This is based on a 2,400 head swine finishing barn with annual production of 750,000 gallons manure.

Step	Crop: <b>Corn</b>		
1.	Average yield	=	<b>200 bu/acre</b>
2.	<b>3%</b> yield advantage of bioaugmented manure	=	<b>6 bu/acre</b>
3.	Value per bushel	x	<b>\$3.50</b>
4.	Income advantage per acre (yield advantage x value/bushels)	=	<b>\$21.00</b>
5.	Acres treated with bioaugmented manure (bioaugmented manure ÷ gal/acre) (750,000 gallons/2,400 head swine finisher barn ÷ 3,000 gallons/acre)	x	<b>250</b>
6.	Increased revenue from bioaugmented manure (acres applied x income advantage/acre)	=	<b>\$5,250.00</b>
7.	Cost of treatment of manure applied (cost/acre = <b>\$4.30/A</b> )	-	<b>\$1,074.00</b>
8.	Income advantage (increase revenue – treatment cost)	+	<b>\$4,176.00</b>
9.	Return on Investment (ROI) (increased revenue ÷ cost of treatment)		<b>3.9 Times</b>

**Need help with your manure management?** The following are technologies you can use to handle the most difficult manure management issues. Enhance its value and improve overall business performance.



### Manure Master Plus™

A pit/lagoon liquid manure enhancement technology to improve liquid manure management, storage, handling, application, soil health, crop response and environmental safety. 100% natural. Safe for animals. Use 40 gallons of Manure Master Plus per one million gallons of manure annually.



### Pit Accelerator™

Accelerates the liquefaction of manure pits/lagoons. Complements, enhances and designed to be used with biological liquid manure treatment products to handle the most difficult manure management issues. 100% natural. Safe for animals. Apply 5 gallons of Pit Accelerator every 6 months per 400,000 gallons manure.



### Manure Mechanical Defoamer™

An extremely effective and fast-acting liquid manure mechanical defoamer. Apply at pump-out to knock down mechanical foam. Full pump-out or manure tanker capacity can be achieved. Add one gallon of Defoamer per 100,000 to 300,000 gallons of manure.



**Manure Master FoamAway™** is a concentrated dry blend designed to knock down microbial foam in swine storage facilities.

#### Benefits:

- Can eliminate foaming in manure pits within a week.
- Residual abatement of pit foam for two months or longer.
- Dry formulation and easy to apply.
- Reduces the hazard potential with foaming manure pits.

Use 5 pounds FoamAway per 100,000 gallons manure.



*"The Manure Treatment Experts"*



**Manure Master**  
Innovative Manure Management

More From Every Acre . . . More From Every Animal

**manuremaster.com**

# Featured Product of the Month

## Eubio-NBS (c10) Soil & Plant Natural Biological Stimulant

### PRODUCT DESCRIPTION:

**Eubio-NBS (c10)** is a "Next Generation" Natural Biological Stimulant. It optimizes and stimulates the biological medium to help increase already existing natural processes that are essential for healthy soil and plants.

Eubio-NBS (c10) is *biodegradable, non-toxic, non-hazardous, non-corrosive, non-irritating* and does not require PPE.

### GUARANTEED ANALYSIS:

Clear aqueous liquid ..... 100%

### INGREDIENTS:

A clear aqueous liquid, safe and non-toxic.

### USAGE AND APPLICATION RATE:

The application rate is 12.8 oz per acre (10 acres per gallon of c10) for both soil and foliar applications. It is recommended to apply a soil application and one to two foliar applications during the season depending on crop value.

Soil Application: Eubio-NBS (c10) can be applied as follows:

broadcast or strip-tilled Fall or Spring, in furrow and through surface or subsurface irrigation.

Foliar Application: Eubio-NBS (c10) can be applied once or multiple times during the season at optimum vegetative and reproductive status of a crop.

Manure Application: Eubio-NBS (c10) can be mixed into liquid manure at the rate of 12.8 oz per acre (10 acres per gallon of c10).

### Eubio-NBS (c10) Applied to Corn In-furrow At-plant 12.8 oz/A

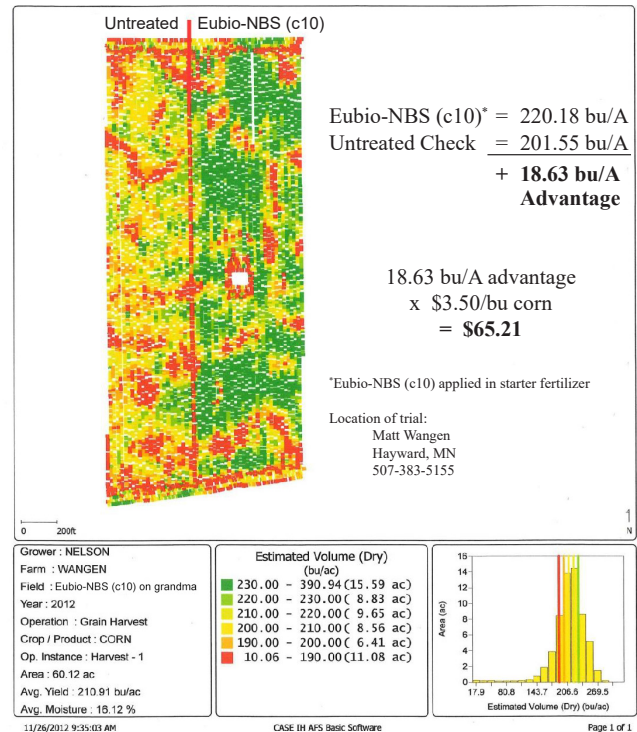
#### Observation on Corn:

Eubio-NBS (c10)	Control
• Increased rows on corn ears	• Tip back
• Increased ear length	• Less ear length
• Increased health	• Less healthy than <b>Eubio-NBS (c10)</b>
• Green leaves to ground	• Disease issues
• Improved stay green	• More ear mold
• Less ear mold	

#### Next Year Observations Corn on Corn:

- Less standing water on **Eubio-NBS (c10)** area
- Faster corn emergence
- Improved early crop vigor
- Stayed healthier throughout the season

### Eubio-NBS (c10) Applied in Corn Starter at Planting Grain Yield Monitor Results



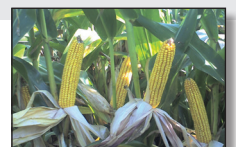
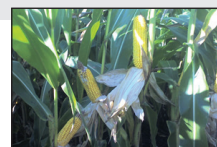
### Eubio-NBS (c10) applied in-furrow on corn at planting time

#### Corn on Corn



Control

**Eubio-NBS (c10)**  
In-Furrow Application 12.8 oz/A





# **ProfitPro®AG invites YOU to call in on the third THURSDAY of the month for the FREE TELECONFERENCE**

**A cost-effective and convenient way to gain knowledge  
on new crop production technologies**

**It's Easy . . . It's FREE**

**Thursday, November 15, 2018  
8:00 p.m. Central Time**

## **UPCOMING SUBJECTS**

**SOIL HEALTH is the Driver for Producing Nutrient-dense, High Energy and Value-added Food/Feed**

How is healthy soil built and maintained? What four basic soil health principles improve soil health and sustainability? **Dr. Jim Ladlie, ProfitProAG President**, will answer these questions and more. Soil health is the foundation to resiliency, regenerative agriculture, value-added production and profitability.

**Increasing Liquid Manure Safety, Value and Utilization through Biological Treatment**

**Dr. Jim Ladlie, ProfitProAG President** will discuss the environmental, social and agronomic issues and concerns regarding liquid manure along with the benefits of biological treatment.

**For more information visit [www.profitproag.com](http://www.profitproag.com) and click on “Monthly Teleconference.”**

## **DIRECTIONS FOR CALLING IN**

1. Dial the toll free number **1-855-212-0212** at 8 p.m. **SHARP** (Central Time) to get in from the beginning.
2. Enter the meeting ID No. **769-100-082#** (pound or hashtag key).
3. **All calls will be muted when joining the teleconference.**
4. **To ask a question** during the Q & A portion of the program, press \*6 (star six). After asking the question please press \*6 to re-mute your phone.
5. **NO FEE** or pre-registration required.
6. Access the teleconference anytime between 8 to 9 p.m. (CT)

## **Monthly Podcasts on Soundcloud**

We've taken our monthly teleconference and created two half hour podcasts to be listened to at anytime on any device. The podcasts will be available on soundcloud using either the manure master or the profitproag channels



**ProfitProAG**

<https://soundcloud.com/user-331466437>

**Manure Master**

<https://soundcloud.com/user-873513634>